OIPE IAP74
MAY 07 2007
PATENT & TRADEMARK OFFICE

SEQUENCE LISTING

<110> Zdanovsky, Alexey
Zdanovskaia, Marina
Ma, Dongping
Wood, Keith V.
Almond, Brian
Wood, Monika G.
Promega Corporation

<120> Rapidly Degraded Reporter Fusion Proteins

<130> 341.021US1

<140> US 10/664,341
<141> 2003-09-16

<150> US 60/411,070
<151> 2002-09-16

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gaggtgccca agggcctgac cggcaagctg gacgcccgca agatccgcga gatcctgatc 1620
aaggctaaga aaggcggcaa gatcgccgtg taa 1653

<210> 67

<400> 67
000

<210> 68
<211> 684
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized GFP sequence

<400> 68
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cacaaattcg tgatcgaggg cgacgggaaa ggcaagccct ttgagggtaa gcagactatg 120
gacctgaccg tgatcgaggg cgccccctg cccttcgctt atgacattct caccaccgtg 180
ttcgactacg gtaaccgtgt cttcgccaag taccccaagg acatccctga ctacttcaag 240
cagaccttcc ccgagggcta ctcgtgggag cgaagcatga catacgagga ccagggaatc 300
tgtatcgcta caaacgacat caccatgatg aagggtgtgg acgactgctt cgtgtacaaa 360
atccgcttcg acggggtcaa cttccctgct aatggcccgg tgatgcagcg caagacccta 420
aagtgggagc ccagtaccga gaagatgtac gtgcgggacg gcgtactgaa gggcgatgtt 480
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gtgagccacg acaaggacta caacaaagtc aagctgtacg agcacgccga agcccacagc 660
ggactacccc gccaggccgg ctaa 684

<210> 69
<211> 1776
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized firefly luciferase

<400> 69
atggccgatg ctaagaacat taagaagggc cctgctccct tctaccctct ggaggatggc 60
accgctggcg agcagctgca caaggccatg aagaggtatg ccctggtgcc tggcaccatt 120
gccttcaccg atgcccacat tgaggtggac atcacctatg ccgagtactt cgagatgtct 180
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tctcagccta ccgtggtgtt cgtgtctaag aagggcctgc agaagatcct gaacgtgcag 420
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aaggctaaga aaggcggcaa gatcgccgtg aattctcacg gcttccctcc cgaggtggag 1680

gagcaggccg ccggcaccct gcccatgagc tgcgcccagg agagcggcat ggatagacac 1740
cctgctgctt gcgccagcgc caggatcaac gtctaa 1776

<210> 70
<211> 1829
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized firefly luciferase

<400> 70
atggccgatg ctaagaacat taagaagggc cctgctccct tctaccctct ggaggatggc 60
accgctggcg agcagctgca caaggccatg aagaggtatg ccctggtgcc tggcaccatt 120
gccttcaccg atgcccacat tgaggtggac atcacctatg ccgagtactt cgagatgtct 180
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tctcagccta ccgtggtgtt cgtgtctaag aagggcctgc agaagatcct gaacgtgcag 420
aagaagctgc ctatcatcca gaagatcatc atcatggact ctaagaccga ctaccagggc 480
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ttcgtgccag agtctttcga cagggacaaa accattgccc tgatcatgaa cagctctggg 600
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ttaagccact ttgtgatcca ccttaacagc cacggcttcc ctcccgaggt ggaggagcag 1740
gccgccggca ccctgcccat gagctgcgcc caggagagcg gcatggatag acaccctgct 1800
gcttgcgcca gcgccaggat caacgtcta 1829

<210> 71
<211> 1776
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized firefly luciferase

<400> 71
atggccgatg ctaagaacat taagaagggc cctgctccct tctaccctct ggaggatggc 60
accgctggcg agcagctgca caaggccatg aagaggtatg ccctggtgcc tggcaccatt 120
gccttcaccg atgcccacat tgaggtggac atcacctatg ccgagtactt cgagatgtct 180
gtgcgcctgg ccgaggccat gaagaggtac ggcctgaaca ccaaccaccg catcgtggtg 240
tgctctgaga actctctgca gttcttcatg ccagtgctgg gcgccctgtt catcggagtg 300
gccgtggccc ctgctaacga catttacaac gagcgcgagc tgctgaacag catgggcatt 360
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aagaagctgc ctatcatcca gaagatcatc atcatggact ctaagaccga ctaccagggc 480
ttccagagca tgtacacatt cgtgacatct catctgcctc ctggcttcaa cgagtacgac 540

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gaggtgccca agggcctgac cggcaagctg gacgcccgca agatccgcga gatcctgatc 1620
aaggctaaga aaggcggcaa gatcgccgtg aattctcacg gcttccctcc cgaggtggag 1680
gagcaggccg ccggcaccct gcccatgagc tgcgcccagg agagcggcat ggatagacac 1740
cctgctgctt gcgccagcgc caggatcaac gtctaa 1776

<210> 72
<211> 1830
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized firefly luciferase

<400> 72
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accgctggcg agcagctgca caaggccatg aagaggtatg ccctggtgcc tggcaccatt 120
gccttcaccg atgcccacat tgaggtggac atcacctatg ccgagtactt cgagatgtct 180
gtgcgcctgg ccgaggccat gaagaggtac ggcctgaaca ccaaccaccg catcgtggtg 240
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gccgtggccc ctgctaacga catttacaac gagcgcgagc tgctgaacag catgggcatt 360
tctcagccta ccgtggtgtt cgtgtctaag aagggcctgc agaagatcct gaacgtgcag 420
aagaagctgc ctatcatcca gaagatcatc atcatggact ctaagaccga ctaccagggc 480
ttccagagca tgtacacatt cgtgacatct catctgcctc ctggcttcaa cgagtacgac 540
ttcgtgccag agtctttcga cagggacaaa accattgccc tgatcatgaa cagctctggg 600
tctaccggcc tgcctaaggg cgtggccctg cctcatcgca ccgcctgtgt gcgcttctct 660
cacgcccgcg accctatttt cggcaaccag atcatccccg acaccgctat tctgagcgtg 720
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gaggtgccca agggcctgac cggcaagctg gacgcccgca agatccgcga gatcctgatc 1620
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ttaagccact ttgtgatcca ccttaacagc cacggcttcc ctcccgaggt ggaggagcag 1740
gccgccggca ccctgcccat gagctgcgcc caggagagcg gcatggatag acaccctgct 1800
gcttgcgcca gcgccaggat caacgtctag 1830

<210> 73
<211> 1059
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized Renilla luciferase

<400> 73
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tgggctcgct gcaagcaaat gaacgtgctg gactccttca tcaactacta tgattccgag 120
aagcacgccg agaacgccgt gatttttctg catggtaacg ctgcctccag ctacctgtgg 180
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gaggagcagg ccgccggcac cctgcccatg agctgcgccc aggagagcgg catggataga 1020
caccctgctg cttgcgccag cgccaggatc aacgtctaa 1059

<210> 74
<211> 1113
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized Renilla luciferase

<400> 74
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tgggctcgct gcaagcaaat gaacgtgctg gactccttca tcaactacta tgattccgag 120
aagcacgccg agaacgccgt gatttttctg catggtaacg ctgcctccag ctacctgtgg 180
aggcacgtcg tgcctcacat cgagcccgtg gctagatgca tcatccctga tctgatcgga 240
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ctcaccgctt ggttcgagct gctgaacctt ccaaagaaaa tcatctttgt gggccacgac 360
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gtccatgctg agagtgtcgt ggacgtgatc gagtcctggg acgagtggcc tgacatcgag 480
gaggatatcg ccctgatcaa gagcgaagag ggcgagaaaa tggtgcttga gaataacttc 540
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agcttaagcc actttgtgat ccaccttaac agccacggct tccctcccga ggtggaggag 1020
caggccgccg gcaccctgcc catgagctgc gcccaggaga gcggcatgga tagacaccct 1080
gctgcttgcg ccagcgccag gatcaacgtc tag 1113

<210> 75
<211> 1140
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized Renilla luciferase

<400> 75
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tgggctcgct gcaagcaaat gaacgtgctg gactccttca tcaactacta tgattccgag 120
aagcacgccg agaacgccgt gatttttctg catggtaacg ctgcctccag ctacctgtgg 180
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caggccgccg gcaccctgcc catgagctgc gcccaggaga gcggcatgga tagacaccct 1080
gctgcttgcg ccagcgccag gatcaacgtc tagggcgcgg actttattta tttatttctt 1140

<210> 76
<211> 1857
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized firefly luciferase

<400> 76
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gccttcaccg atgcccacat tgaggtggac atcacctatg ccgagtactt cgagatgtct 180
gtgcgcctgg ccgaggccat gaagaggtac ggcctgaaca ccaaccaccg catcgtggtg 240
tgctctgaga actctctgca gttcttcatg ccagtgctgg gcgccctgtt catcggagtg 300
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aagaagctgc ctatcatcca gaagatcatc atcatggact ctaagaccga ctaccagggc 480
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caccctaaca ttttcgacgc cggagtggcc ggcctgcccg acgacgatgc cggcgagctg 1440
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gaggtgccca agggcctgac cggcaagctg gacgcccgca agatccgcga gatcctgatc 1620
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gccgccggca ccctgcccat gagctgcgcc caggagagcg gcatggatag acaccctgct 1800
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<210> 77
<211> 1752
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized click beetle sequence

<400> 77
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aagccacaga ttgtcttcac cactaagaat attctgaaca aagtcctgga agtccaaagc 420
cgcaccaact ttattaagcg tatcatcatc ttggacactg tggagaatat tcacggttgc 480
gaatctttgc ctaatttcat ctctcgctat tcagacggca acatcgcaaa ctttaaacca 540
ctccacttcg accctgtgga acaagttgca gccattctgt gtagcagcgg tactactgga 600
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gatccacgct acggcactca gctgattcct ggtgtcaccg tcttggtcta cttgcctttc 720
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ggcgggaatt ctcacggctt ccctcccgag gtggaggagc aggccgccgg caccctgccc 1680
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atcaacgtct aa 1752

<210> 78
<211> 1833
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized click beetle sequence

<400> 78
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gtggctccag tcaacgagag ctacattccc gacgaactgt gtaaagtcat gggtatctct 360
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cgcaccaact ttattaagcg tatcatcatc ttggacactg tggagaatat tcacggttgc 480
gaatctttgc ctaatttcat ctctcgctat tcagacggca acatcgcaaa ctttaaacca 540
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gtctagggcg cggactttat ttatttattt ctt 1833

<210> 79
<211> 1752
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized click beetle sequence

<400> 79
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gctgaaaaca atacccgttt cttcattcca gtcatcgccg catggtatat cggtatgatc 300
gtggctccag tcaacgagag ctacattccc gacgaactgt gtaaagtcat gggtatctct 360
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cgcaccaact ttattaagcg tatcatcatc ttggacactg tggagaatat tcacggttgc 480
gaatctttgc ctaatttcat ctctcgctat tcagacggca acatcgcaaa ctttaaacca 540
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ttccatgctt tcggctttag cattactttg ggttacttta tggtcggtct ccgcgtgatt 780
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atcaacgtct aa 1752

<210> 80
<211> 1833
<212> DNA
<213> Artificial Sequence

<220>
<223> A synthetic optimized click beetle sequence

<400> 80
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ttgactgccg gcgaaatgct gtttcgtgct ctccgcaagc actctcattt gcctcaagcc 120
ttggtcgatg tggtcggcga tgaatctttg agctacaagg agtttttga ggcaaccgtc 180
ttgctggctc agtccctcca caattgtggc tacaagatga acgacgtcgt tagtatctgt 240
gctgaaaaca atacccgttt cttcattcca gtcatcgccg catggtatat cggtatgatc 300
gtggctccag tcaacgagag ctacattccc gacgaactgt gtaaagtcat gggtatctct 360
aagccacaga ttgtcttcac cactaagaat attctgaaca aagtcctgga agtccaaagc 420
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ctccacttcg accctgtgga acaagttgca gccattctgt gtagcagcgg tactactgga 600
ctcccaaagg gagtcatgca gacccatcaa aacatttgcg tgcgtctgat ccatgctctc 660
gatccacgcg tgggcactca gctgattcct ggtgtcaccg tcttggtcta cttgcctttc 720
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gtctagggcg cggactttat ttatttattt ctt 1833

<210> 81
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic mutant ODC peptide

<220>
<221> SITE
<222> (1)...(39)
<223> Xaa = any amino acid wherein one or more of the
Xaa residues are not the naturally occurring
residue

<400> 81
His Gly Phe Xaa Xaa Xaa Met Xaa Xaa Gln Xaa Xaa Gly Thr Leu Pro
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Met Ser Cys Ala Gln Glu Ser Gly Xaa Xaa Arg His Pro Ala Ala Cys
20 25 30
Ala Ser Ala Arg Ile Asn Val

35

<210> 82

<400> 82
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<210> 83

<400> 83
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<210> 84

<400> 84
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<210> 87

<400> 87
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<210> 88

<400> 88
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<210> 89
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 89
Ala Cys Lys Asn Trp Phe Ser Ser Leu Ser His Phe Val Ile His Leu
1 5 10 15

<210> 90
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 90
Ser Leu Ile Ser Leu Pro Leu Pro Thr Arg Val Lys Phe Ser Ser Leu
1 5 10 15
Leu Leu Ile Arg Ile Met Lys Ile Ile Thr Met Thr Phe Pro Lys Lys
20 25 30

Leu Arg Ser
35

<210> 91
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 91
Phe Tyr Tyr Pro Ile Trp Phe Ala Arg Val Leu Leu Val His Tyr Gln
1 5 10 15

<210> 92
<211> 46
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 92
Ser Asn Pro Phe Ser Ser Leu Phe Gly Ala Ser Leu Leu Ile Asp Ser
1 5 10 15
Val Ser Leu Lys Ser Asn Trp Asp Thr Ser Ser Ser Ser Cys Leu Ile
20 25 30
Ser Phe Phe Ser Ser Val Met Phe Ser Ser Thr Thr Arg Ser
35 40 45

<210> 93
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 93
Cys Arg Gln Arg Phe Ser Cys His Leu Thr Ala Ser Tyr Pro Gln Ser
1 5 10 15
Thr Val Thr Pro Phe Leu Ala Phe Leu Arg Arg Asp Phe Phe Phe Leu
20 25 30
Arg His Asn Ser Ser Ala Asp
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<210> 94
<211> 46
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 94
Gly Ala Pro His Val Val Leu Phe Asp Phe Glu Leu Arg Ile Thr Asn
1 5 10 15
Pro Leu Ser His Ile Gln Ser Val Ser Leu Gln Ile Thr Leu Ile Phe
20 25 30
Cys Ser Leu Pro Ser Leu Ile Leu Ser Lys Phe Leu Gln Val
35 40 45

<210> 95
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 95
Asn Thr Pro Leu Phe Ser Lys Ser Phe Ser Thr Thr Cys Gly Val Ala
 1   5   10   15
Lys Lys Thr Leu Leu Leu Ala Gln Ile Ser Ser Leu Phe Phe Leu Leu
            20   25   30
Leu Ser Ser Asn Ile Ala Val
        35

<210> 96
<211> 45
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 96
Pro Thr Val Lys Asn Ser Pro Lys Ile Phe Cys Leu Ser Ser Ser Pro
 1   5   10   15
Tyr Leu Ala Phe Asn Leu Glu Tyr Leu Ser Leu Arg Ile Phe Ser Thr
            20   25   30
Leu Ser Lys Cys Ser Asn Thr Leu Leu Thr Ser Leu Ser
        35   40   45

<210> 97
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 97
Ser Asn Gln Leu Lys Arg Leu Trp Leu Trp Leu Leu Glu Val Arg Ser
 1   5   10   15
Phe Asp Arg Thr Leu Arg Arg Pro Trp Ile His Leu Pro Ser
            20   25   30

<210> 98
<211> 50
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 98
Ser Ile Ser Phe Val Ile Arg Ser His Ala Ser Ile Arg Met Gly Ala
 1   5   10   15
Ser Asn Asp Phe Phe His Lys Leu Tyr Phe Thr Lys Cys Leu Thr Ser
            20   25   30
Val Ile Leu Ser Lys Phe Leu Ile His Leu Leu Leu Arg Ser Thr Pro
        35   40   45
Arg Val

50

<210> 99
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 99
Met Glu Asp Ala Lys Asn Ile Lys Lys
1 5

<210> 100
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 100
Lys Ile Ala Val
1

<210> 101
<211> 4
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<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 101
Met Gln Ile Phe
1

<210> 102
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 102
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1 5 10 15

<210> 103
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 103
Val Thr Asp Ala Lys Asn Ile Lys Lys
1 5

<210> 104
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 104
Gly Gly Glu Pro Arg Asp Pro Val Thr Asp Ala Lys Asn Ile Lys Lys
 1   5   10   15

<210> 105
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 105
Gly Gly Tyr Pro Arg Asp Pro Val Thr Asp Ala Lys Asn Ile Lys Lys
 1   5   10   15

<210> 106
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 106
Gly Gly Tyr Pro Arg Asp Pro Glu
 1   5

<210> 107
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> A synthetic peptide

<400> 107
Asp Ala Lys Asn Ile Lys Lys
 1   5